Wildlife

IN AUSTRALIA

Vol. 11, No. 4 DECEMBER, 1974 50c

REGISTERED AT THE GPO BRISBANE FOR TRANSMISSION BY POST AS A PERIODICAL

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Printed by The Courier-Mail Printing Service, Campbell Street, Bowen Hills, Brisbane.

The Wildlife Preservation Society of Queensland is a non-profitmaking scientific and educational organisation centred in Brisbane. Through its official quarterly publication, WILDLIFE IN AUSTRALIA, it seeks to increase and disseminate knowledge of Australia's natural history, and in this way foster greater understanding of the urgent problems of conservation.

The Editor of WILDLIFE IN AUSTRALIA is constantly looking for articles and photographs on all aspects of nature and conservation in Australia.

At present no payment can be made for articles and photographs as all contributors give voluntarily their efforts for the cause of conservation.

Any opinions expressed in this periodical are purely individual and the Society does not hold itself responsible for them.

SUBSCRIPTIONS — within the Australian Commonwealth $2.40, Overseas $3.20 — payment to The Wildlife Preservation Society of Queensland, Box 2030, G.P.O., Brisbane, Q. 4001.

Membership of the Wildlife Preservation Society of Queensland is $5.00; husband and wife $6.00; life membership $100.00; and includes four issues of this magazine.

All correspondence should be addressed to the Editor, Wildlife in Australia, Box 2030 G.P.O., Brisbane, Qld. 4001.

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Cover Picture

Admiralty Arch on Kangaroo Island

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We are sorry that once again we have to put up the price of WILDLIFE IN AUSTRALIA. After this issue the cost to you will be 60c. per single copy and $2.40 per single subscription, and to overseas subscribers $3.20.

But this is a good time to remind you that we have done pretty well in keeping the price as low as it has been, in this soaring economy. We are indebted for this to our contributors, whom we can't pay and who give us their work to help the magazine and conservation, and to our hardworking members who help — again for free — in the WILDLIFE office. Until this year we have operated without any subsidy and stood on our own feet. We have a $5,000 grant, through the National Estate, from the Australian Government, to help us improve the magazine and pay for a few colour plates in these issues; but it does not go towards covering the rise in costs. This is why we have to raise the price.

It's a hard time for any journal to survive in Australia, and we hope you will go on supporting us. We do give you value, we do work hard to make the magazine as cheap, and as good, as we can, and we are anxious to keep faith with our readers and subscribers and to keep our heads above water. Your subscriptions and your help through publicising the journal and giving gift subscriptions are vital. Please keep the subscriptions coming in, and order any back numbers that are available, to complete your files. It all helps not only the magazine, but the cause of conservation too.

Judith Wright
President
Wildlife Preservation
Society of Queensland

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WILDLIFE AND ENVIRONMENT
Vol. 11, No. 4, DECEMBER. 1974

EDITORIAL

THE HON. E. G. WHITLAM, Q.C., M.P.,
PRIME MINISTER,
PARLIAMENT HOUSE,
CANBERRA
AUSTRALIAN CAPITAL TERRITORY, 2600.

Dear Prime Minister,

There has been in the last few years a growing alarm among conservationists with regard to the development of forestry practices, particularly in the direction of clearfelling prime forests for conversion either to chips for papermaking or to plantation forestry to increase the timber yield. This disquiet has culminated with the recommendations from the Forwood Conference. Though we have made a number of suggestions for improvement there still remains a number of basic problems. These refer in particular to the economic and ecological viability of clear felling.

As conservation groups we have been unable to obtain from the relevant State authorities information which would enable us to assess these matters. We do know that reports have been prepared and are not being released. We also know that economic assessment is impossible unless we are given information on the financial terms of contracts entered into.

We know that a Parliamentary enquiry into the forestry question is planned by your Government but such an enquiry would also be unable to acquire this vital data. Only a Royal Commission has the power to do so.

We feel there are two major reasons why a Royal Commission is essential in these matters, just as essential as the reasons which led to the Royal Commission on the Great Barrier Reef.

The first is that decisions made now, if ecologically not viable, would mean the destruction for all time of vast areas of our limited native forests. There will be no going back. These forests are not only a source of timber but have value in terms of wildlife conservation, watershed use, recreation in similar fashion to national parks and others.

The second point is that there is no urgency to make an immediate decision on clearfelling and increased exploitation of our forests. Most of the present contracts are for export of chips for paper making. Australia has adequate resources for her own use as well as being able to call on supplies of softwoods from New Zealand. Since there is no urgency, a moratorium should be called on all further chipmilling and clearfelling proposals until the Royal Commission findings have been delivered.

We have included rainforests in the terms of the Royal Commission since these have many uses apart from timber and need skilful handling to survive. We have in Australia the only country in the world which has the scientists, the computers and the background knowledge to train the under-developed countries of the tropical world how best to manage such rainforests in long term national interests.

For these reasons we respectfully request that your Government set up a Royal Commission whose terms of reference will include an examination of the destruction of Australian Native Forests with special references to:—

(*a*) *clearfelling for conversion to plantation forests;*
(*b*) *clearfelling for chipmilling;*
(*c*) *exploitation of rainforests;*
(*d*) *whether these practices are in the national interest.*

We know your Government's deep concern for conservation and the retention of quality of life for all Australians. We emphasise that never before has there been such a threat to the survival of our forests as we know them. We are not pre-judging the case but asking that the best advice possible be sought before the various authorities take what is very likely to be an irrevocable step towards disaster.

Yours sincerely,
Len Willan,
CHAIRMAN
NATURE CONSERVATION COUNCIL OF N.S.W.

"*It is a Geminian river of inseparable twins.*"

The following are extracts from a booklet published by the Caloundra Branch of the Wildlife Preservation Society of Queensland. It can be bought for the retail price of $1.00 plus postage but societies interested in taking bulk supplies should contact the author at P.O. Box 71, Caloundra, Qld. 4551.

When rain falls on the Cooloola Sand Mass, the blessed water freshens the foliage of the forest trees, their vines and their epiphytes, dripping through to the sandy floor or running down the bark of the tree trunks to penetrate the hot surface sand and replenish the lakes. It percolates through the fine white sand grains, communicating with deep-shafted root systems and, having arrived at the water table it filters through the peat swamps, sometimes going to the extreme of making

A Living River — The Noosa

by Kathleen McArthur, Caloundra, Queensland

"*. . . .then stopping to reflect the Kabi aboriginals' Coolooli.*"

"Banksias peopled with weird hairy men."

the peat bed float, before it slowly crosses the wildflower plains where in summer banksias of green and yellow and the shining Golden Bells play Christmas decorations and which, in spring, mount the biggest and best wildflower show in a season of such shows, before making its slow, esoteric entrance into its river — the one and only, the dreamy, pure, much-loved Noosa River.

Its tributary Tewah, the young and slim, is seen to slip sinuously, curvaceously and colourfully, trailing swirls of deep red dye, leached from the peat beds, around trees fallen especially to provide sun-baking water dragons with a midday siesta. When Tewah joins mother river she loses her identity completely.

Never in a hurry, even in floodtime when the surplus water gently and silently spreads over the surrounding low-lying land, the deep straight-banked river moves slowly down, gathering reflections of bare-armed Scribbly Gums beside black-bodied aboriginal Coolooli (the cypress that gave its name to the magic world known as Cooloola), and dark-haired Casuarinas and Corkberries that entice Topknot Pigeons down from the rainforests when their black fruit is ripe and Banksias peopled with weird hairy men and Bloodwoods snow-covered with blossom in midsummer and twisted Paperbarks dipping fingers in the water to animate their reflected stark white trunks with ripples. Between the river trees and their reflections are the reed-covered shallows and fern-held banks spotted with Sundews, where crimson Boronia grows with white weeping Tea-tree, yellow Bush Peas, pink Nunyi-um, Blueberry Ash and Blackboys which "stood so still so many a year they grew green leaves in place of hair." Binding all together into this kaleidoscopic ribbon is the colour and pattern of the sky above.

Considering it is the centre of a world of sand, our river provides few beaches and these are of small design, ideally suited to the drinking habits of native animals which probably made them in the first place when hopping down the levee banks.

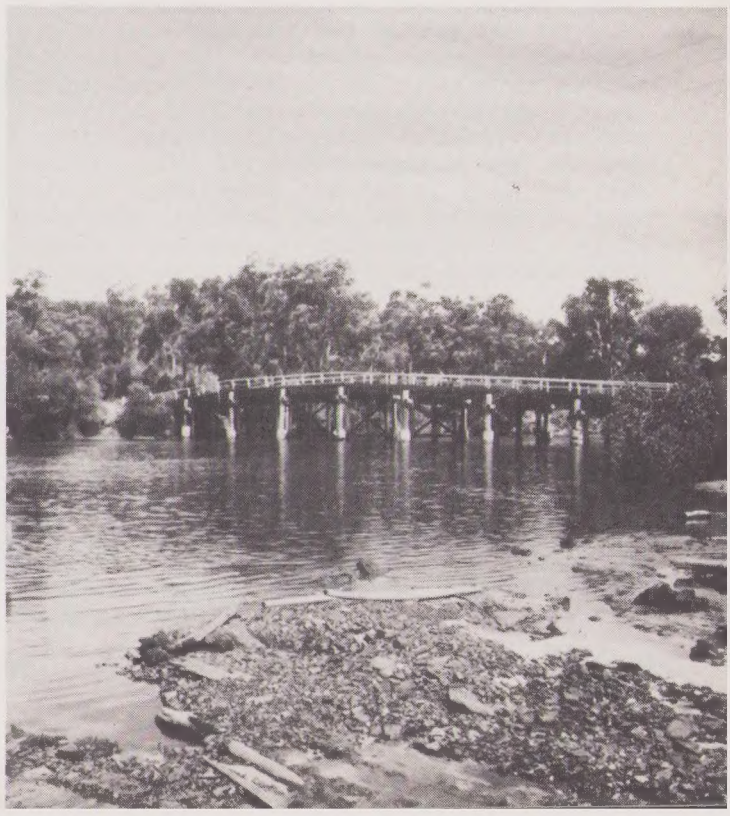
. . . . . .

Oh, the birds of the river are a treat. Every stake or beacon has its resident tern, lectern-posed cormorant or guano-squirting Darter. White-faced and Mangrove Herons and Common Sandpipers skulk on the mudbanks, resting waders face into the wind on the sandflats; Swans and Pelicans congregate over the weedbeds; lorikeets race screaming from horizon to horizon; warblers sing sweetly in the mangroves; bush birds of many many species are constantly crossing from one bank to the other and calling their rich or raucous notes from the shadows of the foliage; the Black Duck is a common fowl there. Birds of prey of more species than are usually seen together, ride the thermals overhead, the most common being Whistling Kites, Brahminy Kites, Osprey and the "giant butterfly", the White-breasted Sea Eagle. Yellow-tailed Black Cockatoos, long-tailed and slow of flight call 'ke-ah ke-ah' as they pass over. White-throated Nightjars hawk over the water at dusk and Owlet Nightjars, Frogmouths and Boobooks, although seen only as shadows of the night sky are constantly calling. Although they are seldom seen by the river travellers, Emus are common beyond the banks as their droppings prove.

Perhaps the most symbolic birds of the Noosa River are the kingfishers and more particularly the Azure Kingfisher which like an orange and purple dart, shoots along the water's edge calling a high 'peep'. Each of these brilliant gems of the bird world seems to claim its own quarter mile of the river bank.

Birding is more successful with the motor turned off, or better still, from a canoe. A wise administration would close the Upper Noosa (upstream from Cootharaba) to

"The humpback bridge over Weyba Creek, now closed to vehicular traffic."



"Although they are seldom seen by the river travellers, Emus are common beyond the banks, as their droppings prove."

"When the river is in spate it is straight sailing into Cootharaba past the little wooded islands."

"*Canoe Tree beside the Tewantin-Cooroy road.*"

power craft and allow only manually driven river craft. The wash from speeding power boats erodes the banks faster than fallen trees, acting as groynes, can restore them.

Little imagination is required to sympathize with the Kabi people's resistance to invasion by white men. They owned a country of meat, vegetables, fruit, eggs, fish and honey, without too much effort being required for the harvesting of it all. That they built their own canoes we know from the few 'canoe trees' still standing. There would have been many more of these trees before the hardwood forests were cleared for dairying. With an average rainfall of 1392 millimetres (nearly sixty inches), the fertility of the soil was leached out and by 1957, 12,000 acres of this former dairy land had been repurchased for forestry purposes.

Drifting downstream below Cooroiba the last of the endemic euphoria disappears on the sighting of that example of man's lack of respect for the environment, the dump of rusting, discarded car bodies. The car ferry crosses the river there, taking tourist buses and hundreds of cars with their passengers who are heading for the forty miles of ocean beach, passing the famous coloured sands on the way to Double Island Point. All those skeletons of cars suggest that they died of starvation on the long wait to get on the ferry coming home. Many of these cars would not have been registered. Registration is solely for road-using vehicles. Threats from unregistered beach vehicles are more than the possible injury, there is also the knowledge of possible lack of compensation for injury. The law is trailing the pattern of social behaviour on our beaches.

Holiday homes and residences begin to make their appearance along the shore long before Tewantin is sighted, including the old, rusty-roofed colonial-style home of the late Miss Hannah Makepeace who lived there alone, managing a museum for tourists. Into her eighties she would row across to the mainland and walk into Tewantin to do her marketing. Of the many stories told about her, the following one perhaps symbolises her best.

Using the excuse that the old and the infirm could not see the Noosa National Park unless a road were built around the headland, certain parties in the district were putting pressure on the Lands Department to allow this. Miss Makepeace joined in the controversy on the side of the conservationists by claiming that the National Park was the only place where old people could walk in confidence and without fear of being knocked down. Bless her memory. The road was not built and the surveyed esplanade was added to the Park.

. . . . . .

The Noosa has been luckier than most rivers. It has escaped clearing and cultivating over most of its catchment. No industry fouls its water. Something in the nature of a miracle saved it from sandmining and today it is still a 'living river'. This is a rare phenomenon in the nineteen seventies, anywhere in the world. However, it is not disease free. The mercenaries of the money market have begun to implement their strategy of biological warfare manifested in two cancers. The first is on Kin Kin Creek where greed for the rich pasture soils has resulted in too much clearing and clearing that is too close to the banks, thus enabling floodwaters to carry the rich red soil into the creek and down into the river so that in that part of the river system the water is 'milk coffee' instead of the characteristic 'black tea'. Better land management could cure this complaint.

The second cancer is much more serious and although it may not kill the river it will always be a running sore and any further outbreak of a similar nature must be strictly prevented. Canal developments; all nature of dredge 'n' fill activities, break the seal that forms under any body of water, allowing the disturbed detritus-filled sand to move backward and forward with the tides. Only months after the commencement of the canal scheme near the mouth of the Noosa River in 1973, layers of this 'mud' were covering the white sands on the south-east corner of Lake Weyba. By the time the whole planned scheme has been constructed and the river between Noosa Heads and Munna Point has been ecologically destroyed, there will assuredly be more evidence to condemn the operation but then it will be too late for redress but not too late to prohibit future schemes of a similar nature.

Car stickers read:

KILLING MANGROVES, KILLS ESTUARIES, KILLS OCEANS, to which could be added KILLS RIVERS. The Noosa River must not be killed. We, its admirers and its friends must protect it from the depredations of the market mercenaries.

In addition to the delightful and informative text, there are a number of black and white illustrations, including photographs and drawings, as well as a map of the Noosa River.

THE SPOTTED BOWER BIRD

L. G. Chandler

There are a number of species of bower birds in Australia, and they can be grouped among the bird wonders of the world. In Victoria we have two species — the satin and the spotted. I will write here of the latter species, now becoming increasingly rare in Victoria.

The spotted inhabits the dry areas of the north and northwest, and is also found in South Australia and through New South Wales to Queensland.

Years ago the bird was well distributed throughout northwest Victoria in areas along the Murray Valley, but being a fruit-eater, with the establishment of vineyards and orchards in New South Wales and Victoria it soon became a rare species in this locality.

Of the birds that remain, a fresh danger to their existence has been added. This is the use of pesticides, and particularly 10-80 poison in carrots that is spread by poison trails to keep rabbits in check. It is claimed there is no danger in the use of poisoned carrots for the bower bird as the bird has an aversion to red. This is misleading, as I have seen red rubber bands in their bowers and also have known them to peck at growing carrots.

In the early days of Kulkyne Station homestead, a man who had one peach tree growing near the house boasted that he had shot forty bower birds in one season. Added to the numbers that were destroyed in the vineyards across the river in New South Wales, it can be understood how rapidly their ranks were depleted.

It is a sad thought that the greed for gain is more important than the aesthetic value of these remarkable birds. The amount of damage that a pair of bower birds could do in the fruit season would be trifling, compared to the number of noxious insects that are destroyed by birds of this type.

After World War I, I spent several weeks with the late Charlie Thompson on Kulkyne Station in northwest Victoria. He was a fine bush-naturalist and a true bird-lover. All native birds found sanctuary on Kulkyne when he lived there.

It was here that I saw my first spotted bower bird. I was familiar with the extraordinary habits of the lovely satin bower bird, but after hours of fascinating observation of its relation in the Kulkyne Forest the spotted won my heart completely.

The bower is a playground only. It is built by the bird as a place where he puts on a wonderful display of mimicry of the notes of many species of birds and even farm machinery such as a circular saw. As he mimics he tosses the "toys" about in an abandon of high spirits.

On account of the rarity of the species particularly in Kulkyne Forest, I have had no opportunity of making a detailed study of the time taken to build the bower, or indeed to gain a complete insight into the life-history of the bird.

What a fine story one could write if one could camp near a bower for a few months in the breeding season. I must be content to record the few items that I gleaned on that first visit in 1919, and again on a few occasions many years later when I was able to visit, for day trips mainly, the haunts of this species.

The first bower in use that I examined closely, was under a lignum bush. It consisted of a thick double row of fine sticks and grasses. The grasses and sticks were also spread across the floor of the playground between the walls to a depth of a few inches, and the length of the bower was about a metre.

The "toys" were distributed in three heaps, at the front, centre and back. In the front were a few leaves of an ice-plant and a stinging nettle, mussel shells and quondong kernels and a mass of small bones — mainly rabbit. In the centre a small heap of glass of different colours took pride of place, and at the back evidently not so important in the eyes of the actor, were a few bones and bits of glass.

The glass was evidently there by accident, possibly dropped by the bird when transferring them to the centre of the bower. It is remarkable how the bird distributes the various items in this orderly fashion. I suspect that the centre group is the most important, and even ear-rings, brooches and small coins have been found in the centre of the bower.

No doubt a dressing table near an open window, with items in view, had attracted the attention of the bird. Later, I will refer to this orderly disposal of the play-things in another bower.

At a distance of about forty metres from this first bower, I passed many happy hours enthralled by the performance of the bird as it played with its toys and mimicked the calls of numerous species of birds. I was not close enough to hear clearly.

When I first saw the bird it was smacking a leaf of an ice-plant on the ground with mock ferocity and emitting scolding notes. Presently, and for some time it tossed the leaf into the air, retired a few metres and again and again hopped to the attack. It then selected a new toy from its collection, or retired to the centre of the playground and carefully pressed some of the stick uprights more firmly into the soil.

Wandering around the river-flats through the lignum bushes, I found several old bowers of these birds with the "toys" still scattered around and crumbling into dust. It was sad to think that unless public opinion could be altered to appreciate these wonderful birds, they will vanish for ever from Victoria and possibly South Australia.

From the 1930's onwards I sometimes saw spotted bowerbirds and their bowers in Kulkyne Forest, and one day a bird flew across my vineyard at Cardross,

Spotted bower bird
at its bower

Photo Hans and Judy Beste

Display ground under tree

Victoria. It was not until September, 27th, 1967, that I took my first colour shots of the spotted bowerbird.

I was in a hessian hide two metres from the bower, and passed several hours listening to the mimicry of the bird. I was able to identify the notes of at least six different species of birds. It was fascinating to watch the movements of the bird at such close range, and I was sorry when evening came and I had to pack up and leave.

This bower was built under a lignum bush and had possibly been in use for a few months only. The "toys" were not numerous, but the same selective style was displayed in their distribution. At the back entrance was a small heap of broken glass of different colours, and at the front, glass and pieces of bright tinsel. In the centre about three dozen new roofing nails had been placed in position and were evidently the cherished possession of the bird. The nails had been collected from a box on the verandah of a house a few hundred yards away.

During the afternoon I played a few pranks upon the bird to test its reaction. I first removed half a dozen nails from the centre and placed them among the pieces of glass in the front of the bower. When the bowerbird arrived in the tree above the playground, I was conscious of the fact that it immediately noticed the nails by its scolding "char char" notes. It flew to the ground, and one by one returned the nails to their allotted place in the centre of the bower, "charring" off and on.

After slight adjustments and a little mimicry of bird-calls and what I thought was the sound of a circular saw, it flew towards the homestead. In a couple of minutes it was back again with a leaf of an ice-plant that it dropped at the back of the bower as it entered.

During its absence I took the opportunity to place a red bottle-top where I had previously put the nails. It appeared to get quite angry over this, and "charring" violently, grasped the offending article in its beak and going into the open literally threw it away.

Coming back into the bower it appeared to be putting some of the sticks into position, when I suddenly realised it was running its beak up and down the sticks and was actually painting the bower. Although a couple of metres away I could see clearly that most of the sticks were painted for at least three quarters of their length a reddish-brown in colour.

I was quite satisfied by the actions of the bird and because the sticks looked darker at the top, that it was really painting. When I got out of the hide and examined the sticks closely, I was convinced that the bird was painting.

Spotted bower bird male displaying to a female

What a wonderful creature! Combined with the building of the playground and its talented collection of "toys", and its aesthetic qualities of play and mimicry, surely such a bird deserves all our efforts to prevent its extinction.

In several bowers that I have examined I have noticed leaves of the ice-plant, and the fact that my bird brought back a leaf before I saw it decorating its bower by painting, led me to experiment on sticks with the juices of this plant but the sticks resolutely abstained from a change in colour. Undoubtedly, the bird munches some leaf or berry in its beak to produce the colour.

In the 1920's or early 30's a Mr Nubling reported that the satin bowerbird painted its bower by chewing small pieces of charcoal and running its beak up and down the sticks. It is possible, particularly with the multiplication of bird photographers, that this characteristic of the spotted bower bird has been observed by a large number of people and also been noted with other species of bowerbirds.

Many people, seeing a bower for the first time, think it is the nest of a bird. However, the nest is an open structure made of sticks and other material and is often built in a mistletoe.

EDITORIAL NOTE

More recently authorities have grouped the western and the spotted bowerbird as the same species. The western form of the spotted bowerbird occurs over a wide area of Australia from the western coast, east through the inland well into the Northern Territory.

An Australian hair seal or sea lion, photographed on Fenelon Island, Nuyts Archipelago, South Australia. **Photograph** by Neville Coleman.

KANGAROO ISLAND

'..a number of dark brown kanguroos were seen feeding upon a grass flat by the side of the wood; and our landing gave them no disturbance... I killed ten... and the rest of the party made up to the number to thirty one, taken on board in the course of the day; the least of them weighing sixty nine and the largest one hundred and twenty five pounds... the poor animals suffered themselves to be shot in the eyes with small shot, and in some cases to be knocked on the head with sticks; half a hundred weight of heads, forequarters, and tails were stewed down into soup for dinner on this and the succeeding days; and as much steak given moreover to both officers and men as they could consume by day and by night. In gratitude for so seasonable a supply I named this southern land Kanguroo Island...'

Kangaroo Island grey kangaroos at Flinders Chase.

Hair seals on the beach.

So wrote Matthew Flinders when he visited this South Australian island on 22 March, 1802. The marsupial which he found so providential in terms of providing fresh meat for himself and his crew was the dark form of the western grey kangaroo which still survives on the island. An attempt to capture the local emu was not so successful as this bird proved more wary.

The French explorer Nicholas Baudin was more fortunate since he wrote in his journal:

"*...The boat entrusted with securing our quota of water brought us on her return two beautiful emus which they had caught with the aid of dogs. Despite all our endeavours we had been unsuccessful until then in approaching them, although the spots they frequented were known to us.*"

Flinders also wrote at some length on a colony of pelicans he found on this island. He commented on the

pleasant life these birds had on this uninhabited island and concluded "*Alas, for the pelicans. Their golden age is past but it has much exceeded in duration that of man.*" The words were prophetic since that colony was destroyed during the years of white settlement.

These three stories are of interest. Why were the kangaroos so tame and the emus so timid? What happened to the Kangaroo Island pelicans?

Excluding Tasmania, Kangaroo Island is the largest Australian island. On its granite base are marine and wind blown limestones. The passage between the island and the mainland is the narrow Backstairs Passage only about 14 kilometres wide. It is interesting that the mainland Aborigines told the settlers they never visited the island, since the channel was too dangerous. Yet work by anthropologist Norman Tindale revealed there had been Aborigines living there, since campsites and stone implements have been found.

Kangaroo Island was part of the mainland until about ten thousand years ago when it was cut off by the rising sealevel. Either the Aborigines moved back to the mainland while the straits were still shallow, or the remnant left behind died out through lack of numbers and an adequate supply of food.

This possibly explains why the kangaroos became tame through ten thousand years of security but leaves the timidity of the emus a puzzle. It also explains why the pelicans had found the island lagoon a safe resting place, since the islands of the Coorong on the mainland would have been vulnerable to the local Aborigines. Today the Kangaroo Island emu is extinct and the pelican colony has gone, though the birds may have transferred their nesting site to the Coorong.

Despite such losses the island still has a great deal to offer and is certain to become an even more important tourist attraction in the very near future. When this happens there will be a need for careful and professional management to ensure that the present charm of the island remains.

On the western end of the island is about 550 square kilometres of Flinders Chase. This almost untouched section of bushland is one of the most important national parks in Australia. It is part of the wetter and more heavily forested end of the island and also has a good development of beach dunes. Near the national park headquarters and camping area various animals have been introduced. These include mainland emus and koalas. The first koalas were brought in 1923 and a small colony still thrives. Cape Barren geese were introduced in 1932 and now a semi-domestic flock can usually be seen in Flinders Chase. Ornithologist H. T. Condon in an article on Kangaroo Island and its land fauna in the December 1967 issue of *Australian Natural History* lists 167 birds.

This list includes 50 seabirds and waterbirds, 20 migrants, and 5 exotic species which have made their way from the mainland to the island. A number of birds were also deliberately introduced and some such as the peaceful dove, common bronzewing, crested pigeon and the kookaburra are still thriving.

Some of the Remarkable Rocks

On a granite headland is an extraordinary collection of rocks which have been sculptured by nature into such attractive forms they are locally known as the Remarkable Rocks. They are reminiscent of much modern abstract sculpture and standing as they do against a background of sea and sky, with a patina of orange lichens, will one day be as famous as the better known mainland rocks.

To the east of these rocks are sand beaches where only a few hundred metres from the main road are places which are the home of hair seals. Fur seals can also be seen on rocky headlands. There is no other place in Australia where a visitor can so easily see these fascinating marine mammals at such close range. Since these beaches are also breeding areas, entire family groups can be studied, including scarred old bulls and females suckling young. Their accessibility and lack of fear spells a danger. As the tourist trade develops there will need to be a wildlife ranger stationed permanently in the area using the daylight hours when visitor usage is high, so this fascinating colony will not be disturbed and leave the site.

This island, so conveniently placed close to the mainland is ideally suited for spring and summer holidays. Flinders Chase as a national park has been managed in a way which has kept all the interest of the original bushland. There seems no reason why, if ranger staff is increased, visitor pressure should harm this southern garden of Eden.

BOOKS WORTH READING

BUTTERFLIES OF THE WORLD—H. L. Lewis
Australasian Publishing Company **$27.50**

This book has over 200 colour pictures, illustrating more than 5,000 species making it the first reasonable guide to world butterflies. It would be interesting for the butterfly enthusiast.

A FIELD GUIDE TO AUSTRALIAN TREES—Ivan Holliday and Ron Hill
Rigby **$5.95**

This is a new edition of a guide first published in 1969 which has proved a popular publication.

THE FLOODING OF LAKE PEDDER—Lake Pedder Committee of Enquiry Final Report
Australian Government Publishing Service

This branch of the Australian Government has a number of titles published under its name. Interested naturalists or conservation societies should ask to be put on the mailing list for new titles. This publication gives in detail the whole sorry story of the flooding of Lake Pedder.

MAKING WILDLIFE MOVIES—C. Parsons
Nelson **$8.75**

With the popularity of wildlife films on television, many amateurs are becoming interested in this topic. The author has worked with the BBC Natural History Unit and can therefore speak with authority.

WHAT DO YOU KNOW ABOUT ANIMALS?—I. Jackson
The Hamlyn Group **$4.95**

A useful book for children which deals with world animals and is packed with interesting information.

WALKABOUTS AND BIRDS—Brigadier Hugh Officer **$2.00**

This book can be purchased direct from the author at Duneira, Olinda, Victoria or from the Bird Observers Club, for this price plus 25 cents postage. "Brig" is a famous figure in Australian ornithology and this book will prove fascinating reading for those who have had the privilege of birding with him. It will also be interesting to other readers as a refreshing story of birds, people and the countryside. As the Brig writes "To remember is to live again" and his enjoyment in the writing can be caught by the reader.

LAST DAYS OF A WILDERNESS—P. Trezise
Collins **$5.95**

This is the story of an area under threat, the Cape York Peninsula. Percy Trezise knows the country well and tells of this fascinating wilderness with a strong plea for its preservation. It is truly a wilderness walkabout packed with information as well as his experiences in exploring it.

REEF AND BEACH LIFE OF NEW ZEALAND—M. Miller and G. Batt —
Collins **$9.80**

An excellent field guide to these habitats and very useful for any New Zealander. Since there is a great similarity between marine habitats and the plants and animals that live there, it is also a useful book for Australians.

TO UNPLUMBED DEPTHS—Hans Haas
Harrap

The author needs no introduction. Besides telling stories about other world oceans he has devoted a chapter to the Great Barrier Reef which includes a fascinating story about an experiment with a giant clam.

From Rigby come three small books with colour illustrations. **AUSTRALIAN MOTHS AND BUTTERFLIES—Peter and Pat Slater** **$2.95**

SEASHELLS OF AUSTRALIA—Walter Deas **$3.50**

NATURAL LIFE OF THE BARRIER REEF—Walter Deas **$3.50**

All serve as excellent introductions to these subjects.

See Important Announcement inside front cover

MY BEST PICTURE

Graham J. Andrews of Farrer, A.C.T. *sent in these two photographs of a fur seal which he thought would be suitable for 'my best picture' page. They certainly are and here is the story of how they were taken.*

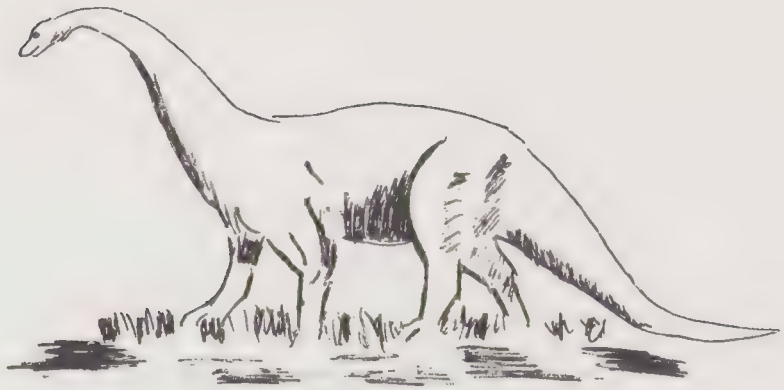
The animal came on to the sandhills of the east Gippsland coast recently, either during or immediately after a storm. Mr Andrews wrote:

"On our first approach the animal went back into the water to return again after about a quarter of an hour. On our second approach we were able to get to within a couple of metres before it growled. Apart from threatening displays if we approached too closely, it made no other attempt to move from the sandhills, where it remained for most of the day."

We have three species of seal common along our coasts. The Australian fur seal shown in the photographs is found along the N.S.W. coast southward into Bass Strait and around Tasmania. The New Zealand fur seal occurs in South Australia westward to Eclipse Island. The sea lion or hair seal occurs from south-western Australia eastward to Kangaroo Island in South Australia.

LAND OF SLEEPING GIANTS

B. W. Peade



Reconstruction of the Australian Jurassic dinosaur Rhaetosaurus after "Ancient Australia" (Laseron)

Palaeontology, the study of extinct animals, is a growing, though little-known aspect of wildlife science in this country.

Fossil discoveries provide startling proof that our present day little band of animals is, sadly, only the remnant of a once teeming horde which roamed across the great inland plains of Australia when such places were lush, steaming rain forests, ringed with huge inland lakes and seas, attended by clouds of exotic water birds clamouring for delicacies amongst the roots of giant watercresses and fragile lilies embracing the perimeter — such was the golden age of Australia's vanished animal life.

A fact not commonly realised is that Australia also had its own members of the dinosaur family. Rhaetosaurus, a herbivorous giant fourteen metres in length and three metres high ambled across the State of Queensland, where its remains have been found embedded in deposits of Jurassic age (150 million years), whilst Kronosaurus, a fourteen metre monster reptile, swam across the same area when it was inundated with sea water during the Cretaceous period (120 to 130 million years ago).

Discoveries of such ancient fossils are understandably rare, and it is necessary to advance to recent times (geologically) to find the link between present day animals and their lost relatives.

This present day outline of the Australian continent did not emerge until perhaps 10,000 years ago with the end of the last great Ice Age. Prior to this the continent assumed many different shapes. In the map at left, the shaded portion represents sea-water encroachment, the solid portion is the vast fresh water lake systems which existed during the Jurassic period, 150 million years ago.

Map after "Ancient Australia" (Laseron)

A photograph taken in the Naracoorte fossil cave with an artist's impression of what a Diprotodon looked like when alive.

In the early 1900's and more recently, discoveries in South Australia and elsewhere have begun to shed light upon life as it may have been up to one million years ago.

This period takes in the proliferation zenith of the marsupials, the curiosities which owe their continued interest to the isolation of Australia.

Many interesting marsupial species have become extinct within the past ten to fifteen thousand years. This decline and extinction co-incides roughly with two interesting phenomena. Firstly, the retreat about ten thousand years ago of the great ice sheets of the "Wurm" ice age, a time when massive ice deposits covered large areas of the northern hemisphere, large sections of Tasmania and also extended into lower New South Wales and Victoria. The retreating ice, triggered by a change in the earth's temperature, melted, resulting in the raising of ocean levels by over 30 metres, and caused dramatic shifts in geographical zones.

Drastic changes occurred in inland Australia, resulting in the desiccation of the interior seas and marshlands. This spelt doom for many species such as Diprotodon, whose environment changed.

Such explanation is an over-simplification of the causes of extinction of these animals, as many other factors were also involved, including the effect of hunting and the use of fire by Aborigines.

Some of the now extinct and bizarre beasts of the past would be viewed with astonishment if seen today. There were creatures such as Diprotodon, a lumbering two ton behemoth, similar in size to a modern rhino, but which carried its young in a pouch, for it was a marsupial, and Procoptodon, a tree-browsing kangaroo, standing an awesome three metres high.

Perhaps the most puzzling of the lot was Thylacoleo, also known as the marsupial lion. An animal surrounded in mystery, it has aroused much debate as to the exact role it played in the ancient animal kingdom. There is no doubt however, that it must have presented an astonishing sight since its forearms were elongated and each paw was equipped with one massive dagger-like claw. Specimens are known where this claw measures nearly 15 cms in length.

Thylacoleo's dental structure has never before or since been found in another animal species, and the total make-up of the animal was such that it may well have been so over-specialised that it contributed to its own extinction. This phenomenon was identified previously in the European sabre-tooth tiger, an animal surprisingly similar (and perhaps an example of convergence) with the Australian "lion".

A treasure trove of bones found at Naracoorte, South Australia in 1969, has excited palaeontologists, for amongst the thousands of brittle remains uncovered animals such as the marsupial lion, Diprotodon, Thylacine (Tasmanian tiger) and giant snakes have been identified.

The finding of this fossil store-house is a story of excitement in itself, but the incredulous joy of one of the first scientists to enter the cave, can hardly be imagined; for he found a partial marsupial lion skeleton, including a wonderfully preserved skull, lying on the cave floor in the same position as the animal perished 10,000 years ago.

The bones of our long dead fauna are invaluable for today's scientists in their efforts to piece together the jig-saw puzzle of animal life, but, let us hope that one hundred years from now, our special Australian animal heritage is not reduced to flesh-less skeletons embedded in the earth or staring out at us from their museum tombs with accusing, sightless eyes.

A PAGE FOR TEACHERS

Although live animals are best studied in the school grounds, a nearby park, or bushland, keeping live animals in the classroom can be a rewarding experience for both teacher and children.

There are many domestic animals which can be used but an aquarium offers an unusual habitat for study. Reptiles are also reasonably easy to handle. One of the difficulties is that few teachers have experience in how to keep live animals so a new book *Practical Nature Study* by John Goode and John Cann should help solve the problems of keeping reptiles and freshwater animals. It is a useful publication packed with information. Here are some samples from chapters dealing with keeping freshwater organisms.

Top centre and right: Sweep nets
Top left: Triangular net
Plankton net

Making the Aquarium

1. The Aquarium

The type of freshwater aquarium depends on the amount of money you intend to spend, but more important, on having enough space (an old bookshelf is a good base) so that not one but several containers can be provided.

Each container should be selected to cater for different forms of water life, and each in its own way should be a miniature example of the habitat where animals are to be found. One of the most economical forms of miniature 'tanks' are large pie or casserole dishes. They can be used both for collecting and to house some of the animals, and they can be bought at a low cost. Jam jars may also be used, though preserving jars with wider mouths are preferable; and finally, two types of aquarium tanks are needed. The first should be fairly shallow and rather long and rectangular; the other needs to be taller so that although it may be kept only half filled, plants or twigs may be placed for insects to come out of the water when they need to.

2. Aquarium Needs

Finally, and this may be needed only for tanks housing larger animals, a form of filter, operated from the aerator, may be installed if it is wished to keep some tanks especially clean.

The main needs for all containers used are light, temperature and aeration. The most natural aerators and those which work quite effectively are water plants. For those with roots, the best method is to cover the bottom of the container with 2-5 cm of loam, and in this the plants are placed. To keep the water clear, the soil is then covered with a layer of silver sand which must be thoroughly washed under a running tap for several hours until the flowing water stirs up no sandy dust. In some cases, however, it has been discovered that sometimes a form of mud, if mixed with a particular sand, is sufficient to prevent the water becoming milky from suspended clay particles, but it is necessary to experiment with various combinations of soils before the right mixture is found.

After plants have been rooted, and the sand used to cover the soil, the tank should be filled or partly filled with rain or pond water, or tap water in areas where this is not chlorinated or does not contain other additives. To pour in the water without disturbing the sand and soil, place a small sheet of glass on top of the sand and carefully pour the water on to the glass in small quantities. The depth of water within the container will depend on the animals living there.

In a natural pond or swamp, most pond life is protected from the outside atmosphere by its surface area and the depth of water. In an aquarium this has to be regulated. Sunlight is essential for the growth of plants but direct rays of the sun will overheat the water. The answer is a compromise which provides enough light for the plants but not too much for the animals. This can be achieved in two ways. The surface of the water can have duckweed growing there, though if it becomes too thick, it must be removed so that some water surface remains clear. The other alternative is to cover one or more sides of the tank with brown paper to regulate excessive light from the sides. In a natural pond, the only light admitted is from above.

It has been mentioned that some water animals are carnivorous, that others are scavengers and yet a third group live on plant life. For this reason, carnivorous animals, for a start, should all be kept in small but separate containers. Vegetable eaters, such as snails, tadpoles, or mussels can live together, and as supplies are obtained, contents of tanks becoming overcrowded can be used to feed carnivores.

With all containers used for housing freshwater fauna, there should always be a glass cover, raised on corks, to allow the air to reach the water; or better still, a lid of fly-wire netting (nylon is best) which permits a free flow of air but stops adult insects flying away.

3. Collecting the Animals

Perhaps the easiest and most obvious ways to collect freshwater animals is to use your hands. Pick up a stone or piece of wood in a rocky stream or pool and look underneath it. In swiftly flowing streams, most living animals shelter from the current either underneath sheltering rocks or by clinging to them.

In weedy locations, a handful of weeds may also reveal a miniature zoo of animals and, in mud, a handful of mud may also contain many different creatures.

However, before leaving home, it is advisable to take with you certain basic items of collecting equipment. These can be summarized as follows:

1 A clean white enamel pie dish or basin.
2 One or more nets depending on the location and what you are trying to collect.
3 A pipette for removing animals from the basin into the carrying container.
4 Containers for carrying the animals home.
5 If possible, a large plastic container with a lid for carrying home a supply of water from the location.
6 A magnifying glass to identify the smaller animals.

Practical Nature Study and Collection — John Goode and John Cann (Sun Books) $2.50

PICTORIAL PAGES

USING YOUR HANDS

We have shown examples of using your head, using your tail and now it's time to show using your hands and arms. Nature has evolved many methods by which animals can put their forelimbs to use. Here are a few.

"One hand for yourself and one for the ship", was the motto of the seamen in the old dangerous days of sail. With this koala it's both hands for yourself, as it leaps from branch to branch.

"I'd like to get my hands on you" this northern native cat almost seems to be saying as it is held for examination. The sharp claws are useful for climbing and for catching prey.

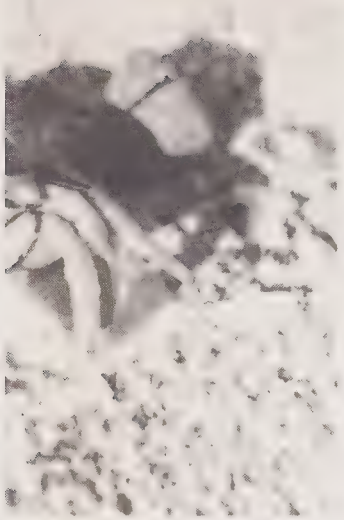
Kangaroos use their arms as powerful grasping weapons when fighting. This photograph of grey kangaroos by Jeff Carter shows two males in a bout of 'play-fighting', learning the skills they will put to good use when older. Jeff Carter, soon after this picture was taken had a rugged encounter with an old man kangaroo and came off second best.

A mantis shrimp with its two catching claws folded away in typical 'pocket-knife' fashion. The shrimp is always ready to shoot these out in mantis-like fashion to grasp a victim.

"Well, what'll it be?" As the photographer was staring at a small mud volcano in a mangrove flat at low tide and wondering what lived in it, suddenly out came the "head and shoulders" of a tree-climbing fish or mud-skipper, using its front fins as excellent walking appendages.

In these crustaceans the pair of front c
in most unusual ways. Here a male fiddle
large claw as an advertisement to other
mud-flat is all his. Perhaps it is also an
females.

Some marine mammals l
in the water, as in the cas
hair seals come ashore t
seals have their front fli
the water and walking on



laws have been modified
r crab brandishes a single
males that this piece of
advertisement for nearby

ave evolved to be completely at home
e of dolphins and whales. Some like these
rest or to give birth to young. These
pers structured both for swimming in
land.

A freshwater crayfish moves over swampy ground in search of pastures new, with formidable grasping claws held at the ready, for food or fight.

Although flying fish do not fly but glide through the air, the "arm" fins, or pectorals, have been modified to form gliding planes.

Birds are not the only animals which have their front limbs modified for flying. Bats also have the bones in their hands and arms elongated to act as support for the wings. This white-bellied bat has the wings spread to show the bones of the fore-limbs.

Bats use their wings not only for flying but also for shuffling along the ground, as in the case of this white-striped mastiff bat. The claw on the wing helps.

Code for Nature Photographers

We feel it is time some suggested rules for wildlife photographers were prepared. Conservationists expect those interested in making collections of animals for scientific purposes to observe certain basic rules. Those of us who enjoy taking photographs, rather than specimens, must also realise that through ignorance or lack of concern, we may destroy individual animals through photographing them.

Our hope is that readers will make suggestions to us to change this code and to make it more suited to our conditions — or may have ideas on an entirely different code. Please send in your suggestions and we will publish a final code later in 1975.

THE NATURE PHOTOGRAPHERS' CODE OF PRACTICE

INTRODUCTION

This Code has been produced by the Association of Natural History Photographic Societies, with grateful acknowledgements for help received from the Royal Society for the Protection of Birds, the British Trust for Ornithology, the Botanical Society of the British Isles, the Mammal Society, the Joint Committee for the Conservation of British Insects, and the Society for the Promotion of Nature Reserves. Such things are always compromises, and the Code should not be construed as committing these bodies to all its recommendations as matters of policy.

GENERAL

The law as it affects nature photography must be observed. In the UK the chief legislation is the Protection of Birds Acts, 1954-67, though bye-laws may govern activities also in some circumstances. In other countries, one should find out what restrictions apply (and it should be noted that these may include plants).

There is only one other hard-and-fast rule, whose spirit must be observed **at all times** — "The welfare of the subject is more important than the photograph".

This is not to say that the photography should not be undertaken because of slight risk to a common species. But the amount of risk acceptable decreases with the scarceness of the species, and the photographer should always do his utmost to minimise it.

Risk in this context, means risk of physical damage, suffering, consequential predation, or lessened reproductive success.

The photographer should be familiar with the natural history of his subject; the more complex the life form and the rarer the species, the greater his knowledge ought to be. He should also be sufficiently familiar with other natural history specialities to be able to avoid damaging their interests accidentally. Photography of scarce animals and plants by people who know nothing of the risks involved is to be deplored.

For many subjects, "gardening" (i.e. interference with surrounding vegetation) is necessary. This should be to the minimum extent, not exposing the subject to predators, people, or adverse weather conditions. It should be carried out by tying-back rather than cutting-off and it should be restored to as natural a condition as possible after each photographic session.

If the photograph of a rarity is to be published or exhibited, care should be taken that the site location is not accidentally given away.

It is important for the good name of nature photography that its practitioners observe normal social courtesies. Permission should be obtained before operations on land to which there is not customary free access, and other naturalists should not be incommoded. Work at sites and colonies which are the subjects of special study should be coordinated with the people concerned.

Photographs of dead, stuffed, home-bred, captive, cultivated, or otherwise controlled specimens may be of genuine value, but should never be "passed off" as wild and free. Users of such photographs (for exhibition or publication) should always be informed, however unlikely it may seem that they care.

BIRDS AT THE NEST

It is particularly important that the photography of birds at the nest should only be undertaken by people with a good knowledge of birds' **breeding** behaviour. There are many otherwise competent photographers (and bird-watchers) who lack this qualification.

It is highly desirable that a scarce species should be worked only in an area where it is relatively frequent. Many British rarities should, for preference, be worked in countries overseas where they are commoner.

Photographers working abroad should, of course, act with the same care they would use at home.

A hide should always be used when there is reasonable doubt that the birds would continue normal breeding behaviour otherwise. No part of the occupant (e.g. hands adjusting lens-settings, or a silhouette through inadequate material) should be visible from outside the hide.

Hides should not be positioned on regularly-used approach-lines to the nest, and (unless erected gradually **in situ)** should be moved up on a roughly constant bearing. They should not be allowed to flap in the wind.

A hide should not be erected at a nest where the attention of the public or any predator is likely to be attracted. If there is a **slight** risk of this, an assistant should be in the vicinity to shepherd away potential intruders. No hide should be left unattended in daylight in a place with common public access.

Tracks to and from any nest should be devious and inconspicuous. As far as possible they (like the gardening) should be restored to naturalness between sessions.

Though nest failures attributable to photography are few, a high proportion of them is the result of undue haste. The maximum possible time should elapse between the consecutive stages of hide movement (or erection), introduction of lens and flash-gear, gardening and occupation. There are many species which need at least a week's preparation.

Each stage should be fully accepted by the bird (or both birds, where feeding or incubation is shared) before the next is initiated. If a stage is refused by the birds (which should be evident from their behaviour, to any properly-qualified photographer), the procedure should be reversed by at least one stage; if refusal is repeated, the attempt at photography should be abandoned.

In difficult country, acceptance can be checked indirectly by disturbed marker-twigs, moved eggs, etc, provided the disturbance in inspecting the marker is minimal.

The period of disturbance caused by each stage should be kept to the minimum. It is undesirable to initiate a stage in late evening, when birds' activities are becoming less frequent.

Remote-control work where acceptance cannot be checked is rarely satisfactory. Where it involves resetting a shutter, or moving film on manually between exposures, it is less likely to be acceptable because of the frequency of disturbance.

While the best photographs are often obtained at about the time of the hatch, this is no time to start erecting a hide — nor when eggs are fresh. It is better to wait till parents' reactions to the situation are firmly established.

There are few species for which a "putter-in" (and "getter-out") is not necessary. Two may be needed for some wary species.

The birds' first visits to the nest after the hide is occupied are best used for checking routes and behaviour rather than for exposures. The quieter the shutter, the less the chance of the bird objecting to it. The longer the focal-length of lens used, the more distant the hide can be and the less the risk of the birds not accepting it.

Changes of photographer in the hide (or any other disturbance) should be kept to the minimum, and should not take place during bad weather (rain or exceptionally hot sun).

Nestlings should never be removed from a nest for posed photography; when they are photographed **in situ** care should be taken not to cause an "explosion". It is never permissible to prevent artificially the free movement of young.

The trapping of breeding birds for studio-type photography is totally unacceptable in any circumstances.

The use of play-back tape (to stimulate territorial reactions) may need caution in the breeding season, and should not be undertaken near a nest.

MAMMALS AND BIRDS AWAY FROM THE NEST

It is not always true that, if technique is at fault, the subject will either not appear or it will move elsewhere and no harm will be done.

Predators should not be baited from a hide in an area where hides may later be used for photography of birds at the nest.

Wait-and-see photography should not be undertaken in an area where a hide may show irresponsible shooters and trappers that targets exist; this is particularly important overseas.

The capture of even non-breeding birds just for photography under controlled conditions is not an acceptable practice. Incidental photography of birds taken for some valid scientific purpose is acceptable, provided it causes minimal delay in the bird's release, but in the UK this must be within the terms of the licence issued by the Nature Conservancy Council.

Taking small mammals for photographic purposes is acceptable, provided they are not breeding and that they are released with a minimum delay in their original habitats, but the practice is not recommended. Particular care is needed with shrews which may starve to death in three hours.

Bats need special care. Disturbance at or near a breeding colony may cause desertion of an otherwise safe site; several UK species are very rare and the loss of even one site could be critical. Unnecessary disturbance of roosting sites should also be avoided, and photographic visits should be coordinated with those by people studying the colonies.

Awakening of hibernators for photography is not recommended. If there is a strong case for doing so, choose a mild spell near the end of a mild winter. Bats are especially vulnerable, since their fat reserves may only be adequate for four or five awakenings in an entire winter. An awakened hibernator should be offered food but refusal to feed should not be a reason for taking an alternative specimen. It should be returned to hibernation as soon as possible.

OTHER ANIMALS

For cold-blooded animals and invertebrates, temporary removal from the wild to a studio or vivarium (or aquarium) for photography is a well-accepted practice, but subsequent release should be in the original habitat and as soon as practicable.

Chilling or light anaesthesia for quietening invertebrates is not recommended. If it is undertaken, subjects should only be released when the effects have completely worn off.

When microhabitats (e.g. tree-bark, beach rocks, etc) have been disturbed, they should be restored after the photography.

Insect photographers should be familiar with the Joint Committee for the Conservation of British Insects' **Code of Insect Collecting** and **British Macrolepidoptera; Rare and Endangered Species.** While these allow moderate rarities to be collected, photographers should take a restrictive view of what ought even to be put at risk by their activities.

PLANTS

The comments in the General section about gardening are particularly important for rare plants within reach of the public.

Trampling of habitats can cause serious damage in vulnerable areas, especially marshes. It is essential that preparations to photograph one specimen of a rarity do not involve treading on other specimens, including non-flowering ones. Tracks to and from a rarity should be devious and inconspicuous, and should be restored to naturalness afterwards.

Plant photographers should be familiar with the Botanical Society of the British Isles' **Code of Conduct** and **List of Rare Plants.** While these allow the picking of moderate rarities, photographers should take a restrictive view. No rarity should be picked (still less dug up) for studio photography, or to facilitate the **in-situ** photography of another specimen. Nor should part of one be removed to facilitate the photography of another part.

Published on behalf of the ANHPS by RSPB, The Lodge Sandy, Bedfordshire, SG19 2DL, U.K., from whom further copies are available at 5p each, please send stamped addressed envelope.

Burramys parmis — the pygmy mountain possum — first found at Mt. Hotham in Victoria's proposed Alpine National Park — 1975. *See page 125.*

Photo Tom Kneen

HERON ISLAND

by ELIZABETH AICKIN

Heron Island is a coral island in the Capricorn Group 70 kilometres north east of Gladstone, and near the southern end of the Great Barrier Reef. The coral formation has become a 17 hectare forest and shrub covered island surrounded by 10 kilometres of reef which supports over 1,150 species of fish.

The island comprises a resort with excellent facilities for skin divers, reef walkers and island explorers. A small research station is operated by the Great Barrier Reef Committee affiliated with the University of Queensland, and the remainder of the island is a national park which is a breeding ground for turtles and birds.

Many kinds of birds either live on the island permanently or migrate there each year. Amongst these are the wedge-tailed shearwaters or the mutton-birds which arrive in large numbers in early October. They lay their eggs in burrows in December, but the chicks are not seen until April when they emerge fully fledged. By this time the parents have left and the young birds live off their fat reserves before setting off to follow their parents.

The white-capped noddies are another species that lives in large numbers on the island. These birds build an untidy looking nest in the pisonia trees. The nests are usually made of pisonia leaves piled on top of each other on the tree branches. As there is practically no indentation in the nest some eggs fall off and are destroyed.

The reef herons after which the island is named, live high in the pisonia and pandanus trees, and can be seen fishing from the reef early in the morning. There are more than 60 species of birds recorded as visitors or residents on the island ranging from the majestic looking sea eagle down to the banded land-rails which potter amongst the shrubs, and the cheeky little silver-eyes which invade the resort diningroom to steal sugar and bread crumbs.

White capped noddy. Photo Elizabeth Aickin.

Banded land-rail
Photo Elizabeth Aickin

THE ALPS AT THE CROSSROADS

New book argues for Victorian Alpine Park

Adventuring — one of the prime reasons for having national parks.
Photo D. Johnson

The Victorian National Parks Association has published a book by Dick Johnson which argues strongly for a large national park to be established in the Victorian mountain country contiguous with the Kosciusko National Park. The concept presented, if realised through legislation, will protect Australia's mainland playgrounds of snow and ice from disfiguring and environmentally damaging developments. Under the scheme presented the elevated uplands of the southern State, from Mt Baw in Gippsland to the border, will be reserved, creating in effect a continuous national park from there almost to Canberra in the Australian Capital Territory. Such a park would be truly national, encompassing parts of two States and one Territory within its vast sweep.

The author has taken a comprehensive view of this somewhat neglected portion of the southern highlands. Many Australians think of the Alps on the Great Divide only in terms of Mt Kosciusko and Thredbo Village. Equally rugged and attractive country is to be found south of the border in the Victorian mountains with the Mt Bogong—Bogong High Plains—Mt Feathertop

Hell's Window — Mt. Maydale in the proposed Victorian Alpine National Park — 1975.
Photo R. Taylor

region a great snowfield during the winter season. Falls Creek and Mt Hotham ski villages are both located in these snowfields of the north-east.

The history of the development of the mountain country of Victoria in the early days of exploration, settlement and gold mining is reviewed and an account given of the growth of State Government departments and how they developed interests and responsibilities in the administration of activities within the Alps, and of recreation in the mountains, particularly the growth of skiing through the Ski Club of Victoria.

A plea is made on behalf of what the author has termed "adventurers" — people who are prepared to go into the mountains on foot, ski or by canoe to find what the high country has to offer man. The writer explains the need to preserve wilderness regions intact, describing the historical development of the idea of wilderness in our Western culture and its place in the Australian context. Credit is paid to Myles Dunphy for the great work he performed over so many years in seeking to establish primitive areas throughout New South Wales, and in particular his plan for the Snowy-Indi Primitive Area, first put forward in 1935. He has argued strongly against the uncontrolled access of private vehicles (4WD and trailbikes) on the myriad forestry tracks that lace the Victorian mountains and has attacked forest management policies which seek to extend these into the remaining wilderness regions, either for the purpose of timber extraction from timber stands or for the suppression of wildfire.

The book emphasises the emotional reasons for the preservation of wilderness. The author argues that the greatest value mountains have for man is the emotional refreshment or regeneration man experiences from moving about on them. Anything which tampers with or degrades this emotional link decreases his enjoyment of them. The effects of roads and vehicles, logging and grazing and even ski villages are all examined and found to be in varying degree detrimental to the environment and inimical, without controls, to the concept of wilderness and adventuring. The author reasons that only by the creation of a large alpine national park can order be brought back into the tangled administration of the Alps and proper force exerted to ensure that its values — to people — are not destroyed.

The book contains sufficient information on the development of the national park movement in Victoria with its many ups and downs to be almost a handy compendium in this regard. The first National Parks Association, the struggle to extend national park reservations, efforts to obtain a National Parks Authority, the establishment of the Victorian National Parks Association, and the chequered history of the Authority are all described.

The book examines the past and details the history of the region. It looks at the present, and the influences which are causing conservationists concern. Lastly, it looks at the future with a concrete set of principles proposed for the area's administration as a national park.

This book has been prepared as a cooperative venture by the VNPA together with the Save Our Bushlands Action Committee and the Federation of Victorian Walking Clubs. Copies may be obtained by forwarding $3.75 with name and address care of VNPA Alpine Book Sales, P.O. Box 785F, G.P.O. Melbourne 3001.

THE UNDERWATER NATURALIST

by Neville Coleman, Sydney, N.S.W.

SYDNEY HARBOUR

Port Jackson, or Sydney Harbour as it is more widely known, is one of the most picturesque deepwater harbours in the world. Who knows how many thousands of people have gazed at its magnificent views and wandered along its foreshores. For some, it means a quiet Sunday spent in beautiful surroundings, for others, the chance to use knowledge and skill to compete for prize or pleasure on its waters.

But how many let their thoughts sink, past the shimmering ripples of the estuaries, down through the deep wave troughs that well up between the heads, to the harbour floor. To the marine creatures who, despite nature's many wonderful and varied gifts of rehabilitation are losing a battle for their survival. Man with his factory effluents, sewage systems, leaky oil lines, excessive use of D.D.T. and detergents, plus the attitude "What you can't see doesn't matter so dump it in the harbour", make survival in the upper reaches only possible for the hardiest and most adaptable of organisms.

There may be a few days in the year when given the right tides and conditions the waters of the harbour are relatively clear. For the most part however, horizontal visibility rarely exceeds 3 metres. Shallow, sandy areas where sunlight penetration is reflected, may tend to be more. So that, on bright, sunny days, an impression of clarity is given. When viewed from below, the suspended sediment in the water is seen against an infinite background of darkness, and there is little horizontal light penetration.

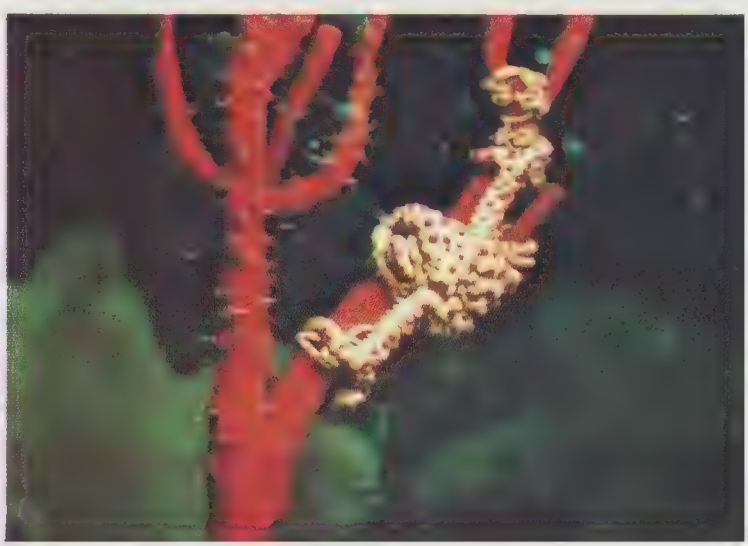
The greater part of the harbour floor is covered with silt as are many of the sessile creatures living there. This silt is a natural by-product of earth washed into the harbour by way of rivers during heavy rain. Added to this is the daily influx of millions of gallons of sewage sediment poured into the shallow waters just outside the harbour entrance, the hundreds of thousands of gallons of factory residues and seepage from septic tanks. Indeed it is a very dedicated diver or naturalist who ventures into these waters in an effort to record the species inhabiting the harbour floor. Often to find living animals one must investigate the items of man's discard.

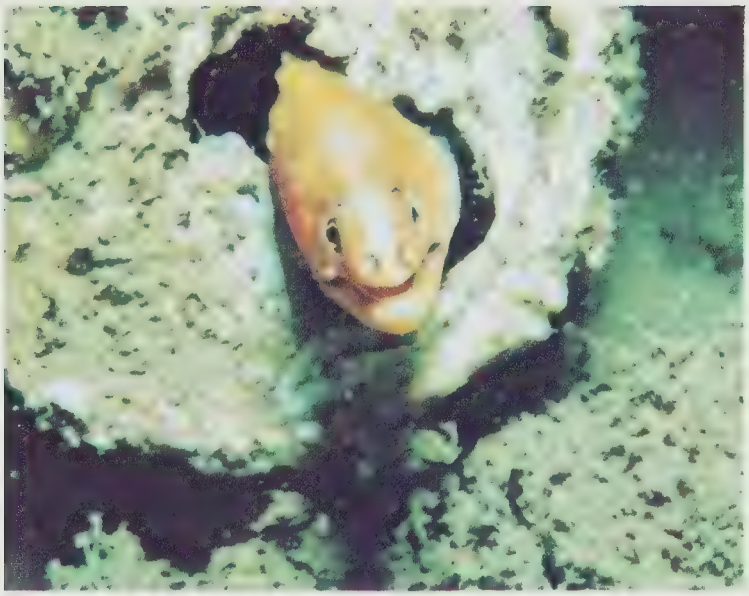
Swimming in an underwater garbage dump doesn't add to the pleasures of a dive but apart from the inorganic materials, the majority of refuse does break down in time. Old rubber tyres become havens for porcupine fish, tins and bottles are used by octopus. In fact much of the refuse provides homes for marine creatures.

This is one of the most interesting sea urchins of the harbour floor. So far it has only been recorded from the southern side of the harbour.

This nudibranch is seasonal and can be seen in the months of early summer. It lays a white egg ribbon.

This basket star clings to sponges and gorgonian corals during the day, at night it spreads its legs out like a net and catches drifting marine life upon which it feeds.





Sheltering in a beer can a juvenile green eel, seems quite at home.

The red morwong. Ten years ago this fish was very prolific in the harbour, today it has been reduced to small isolated areas and large adult fish are uncommon.

Unique to Australia the old wife is still common in the harbour's lower reaches.

Photographed on an incoming tide the sea pen, is fully expanded in a typical feeding position.

This doesn't excuse the lazy, complacent "don't give a damn" attitude which causes the refuse to be there in the first place. Most people wouldn't dream of emptying their rubbish tin on their front lawn, but into the sea, well, out of sight, out of mind.

The average fisherman knows a lot about fish. Does he realise that for every ring-pull can taken out on a boat and thrown overboard, there is a 75% chance of a fish dying?

A fisherman spends all his time and effort in trying to attract fish. In a group he can often by very successful with lots of bait, burley and shiny jiggers. Artificial lures catch many fish because their mode of existence depends upon feeding on bright, shiny, smaller fishes. The ring-pull tabs, thrown over the side, dive and meander as they sink. Fish in close proximity sometimes swallow these shiny objects. The razor sharp tabs become lodged in the fish's gills, throat or intestines condemning it to a lingering death.

Amazingly enough 400 species of fishes have been found to inhabit the waters of Sydney Harbour, with new records and species being discovered each year. Although some fishes may be semi-confined to a particular habitat, they are mostly mobile creatures capable of changing their locations. The invertebrates however are not as fortunate. Should major influxes of pollutants enter their area they usually succumb. The most important invertebrate members in regard to water purity are the sessile, filter feeders. The mussels, oysters, cockles, ascidians and sponges recycle thousands of gallons of harbour water each day.

Due to the amount of harmful bacteria in the waters of Sydney Harbour, the eating of molluscs from the harbour is forbidden by law. Most bivalve molluscs retain various poisonous substances taken from the water during their normal respiration and feeding. Such poisons are not always destroyed by cooking and are capable of causing severe sickness, even death.

In the main channels entering the harbour, can be found a most interesting form of soft coral called a sea pen. The sea pen feeds on minute, planktonic organisms and frequents sandy, mud bottoms where the currents are strong. They prefer sheltered bays and harbours in water deep enough to prevent their being dislodged by big seas. One species stands nearly ½ metre in height and to encounter a colony of these wavering, white, ghostly shapes in the inky blackness can be breathtaking.

Fragile nudibranchs (shell-less molluscs), often brilliantly coloured, can easily be recognised against their dark surroundings.

Because of the silty conditions, special precautions and equipment are necessary to record the animals and plants which live in the harbour. When entering from the shore it is most important that the current flow be determined. A diver must always work against the current. In this way the silt which is stirred up during forward movement, flows away.

Often, photographs must be taken while moving, for if a stop is made to ensure focus, the silt will rise around both subject and diver. Camera equipment is restricted to close-up units of cameras with extreme wide-angled lenses. An artificial light is an absolute must, particularly below 3 metres.

Despite the depletion of species from many areas, the murky depths of Sydney Harbour still have a fascination for a few enthusiasts who seek out the beings in existence and record them for posterity.

Along The Nature Trail

with the Editor, VINCENT SERVENTY

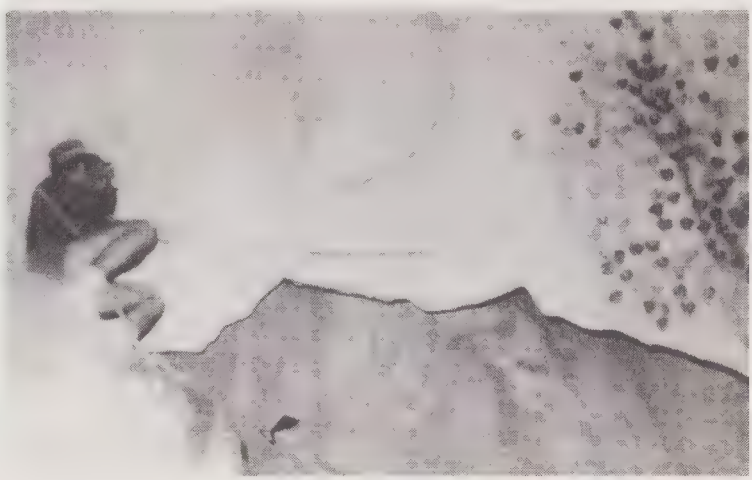
Grey swiftlet

These birds found in coastal North Queensland are a group noted for the fact they use saliva in making their nests. A few species such as the edible-nest swiftlet, make the nest entirely out of this material but the Australian grey swiftlet uses plant material as well. From John Orrell of Smithfield near Cairns comes this story, written on 18 August, 1974.

"*I had an interesting experience this week. A friend Lou Pecotich dropped by and asked me to go to Tully Gorge with him to see the swift colony he had found there. I couldn't go because of other engagements and he said he knew of another colony in the Chillagoe Caves. We went last Tuesday and it was a successful trip. We found the colony of about 50 nests and evidence of another 50 down a winze leading to yet another cave. Lou Pecotich managed to climb up to an adjacent ledge for colour close-ups. I stayed put on another ledge and took the black and whites. A 'dark-room' rough is enclosed.*

Lou Pecotich had interesting notes about the Tully Gorge colony. They were 'working' a week ago out of the normal breeding season and at Chillagoe we found one solitary swiftlet in attendance at the cave."

In *Birds of Australia*, J. D. Macdonald gives September to February as the usual breeding season. I have never seen these nesting swiftlets in life but have seen some of Mr. Pecotich's beautiful colour slides, as well as black and white photographs from John Orrell. Lou Pecotich can be seen here taking his photographs of the nests on the cave wall opposite.



Lyrebirds

From Mrs K. R. Makinson of Pymble, N.S.W. came an interesting letter about lyrebirds in the Blue Mountains.

"*Below Govett's Leap at Blackheath my son and I, while walking along the track saw a female lyrebird digging just in front of us. Soon after she flew up to a low branch and, as if by appointment, a currawong flew on to the same branch. They sat side by side, about a metre apart. The currawong said 'currawong' and the lyrebird said 'currawong'. This conversation continued for a few minutes.*

In the Grand Canyon, Blackheath soon after the fire went through in 1968 there was a green patch on the far side of the creek. We heard a lyrebird there and then saw a pair of birds. The male had no mound but scrambled up the hill and volplaned down to a stump. From there he later flew to a rock. He did not bring his tail over his head but shook his wings in display. During this time he mimicked many birds — parrots, cockatoos, kookaburras and I forget what else. Then he mimicked horse's hooves and a twanging noise which we finally realised was gunfire. It was mixed up with the horse's hooves and we were shocked at the idea that someone had been shooting in the area. A few weeks later we heard him again on Evans Lookout Road, about half an hour for us from the first singing place but only five minutes for the bird. Again he did the hooves and gunfire and then we realised! He was imitating a TV Western. We knew there was a TV in the last house on Evans Lookout Road. A few months later we talked to the owner of the house and she said she knew the lyrebirds came into her garden but didn't know they were watching (or listening)."

This is a fascinating letter. Alec Chisholm in '*Bird Wonders of Australia*' says

"*there need be no doubt that occasional mockers acquire such sounds as the grunting of the koala, the yapping of the fox, the barking of dogs, and even 'foreign' noises such as the rattling of chains, the churring of saws, and the striking of axes on wood.*"

Naturalist A. B. Rose writing of the lyrebirds of Kuring-gai Chase also reports mimicry of mechanical sounds but thinks these would be rare and only in certain areas.

Fruit bats

From N. F. Hoschke of Coffs Harbour, N.S.W. an interesting letter about the fruit bats or flying foxes as they are often called.

"*I know it has been generally agreed that the bats are nectar feeders but I have always been puzzled as to how they could obtain a worthwhile amount of nectar without chewing and destroying large quantities of blossom. You mentioned seeing them eating the flowers of a wattle tree and apart from that, I cannot find any evidence to suggest that they destroy the flowers. I recall that during a dry season a bloodwood tree close to my house was heavily laden with blossoms. Flying foxes were very numerous and there were lots of parrots and honeyeaters during the daytime but apart from a few small branches and twigs broken off, there didn't appear to be any reduction in the amount of blossoms. In my youth I lived on a farm and often shot flying foxes in fruit trees and sometimes from nearby gumtrees. On one occasion I noted that a fox from a gumtree had been feeding on beetles, as it had a number of these insects in its mouth. The beetles were a light brown variety, common around the trees in summer. I had noticed that the flying foxes spent a lot of time in these trees, moving from branch to branch. I couldn't say if these flooded gumtrees had flowers at the time but I don't think they would contain much nectar or pollen so it seems most likely the bats were just searching for insects.*

Photo Roy Cooper

When eating fruit, the bats chew everything very thoroughly and reject all or most of the pulp. It seems most likely they would require protein foods such as pollen or insects to form a balanced diet."

Mr Hoschke finished with a plea to treat these animals as part of the web of life of our bushland and not just as pests.

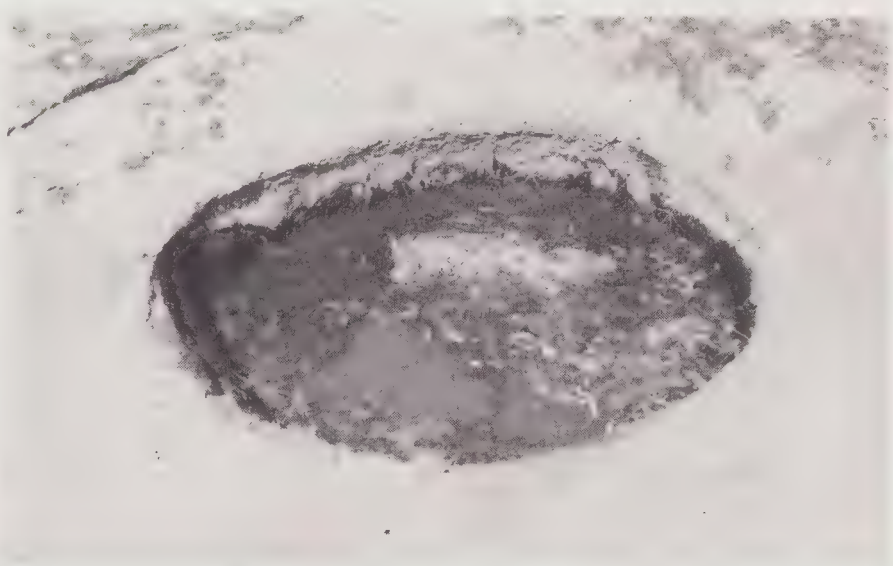
The photograph by Jeff Lark shows flying foxes hanging from trees on Green Island near Cairns. There is a small colony of these bats in the forest on this island.

Rockhole

Ross Edmunds of Temora, N.S.W. sent in two photographs of a rockhole about a metre in diameter. Mr. Edmonds writes:

"*Local people tell me this is an Aboriginal waterhole. It has been carved out of solid rock and is as deep as you could reach with one hand while lying on the ground. I have not heard of Aboriginals being engineering-minded in this way before. The area where this and another similar hole is located is east of Barmedman in the Riverina about 20 miles from Temora. The area was used as a weapons quarry as the rock was very suitable but there are no permanent waterholes in the area. It is presumed these holes were made to supply water during the dry season. I would appreciate it if there were any way of confirming that these holes were really used for this purpose.*"

Aborigines all over Australia did dig pits in sand and other soils where water could be obtained. At times they made small dams on bare claypans to trap water but I do not think they dug holes in rock. Their tools would not have been appropriate for this kind of work. Such holes form naturally due to processes of weathering. In Western Australia these are known as gnamma holes and the local Aborigines made sure they were kept covered to stop animals from falling in and fouling the water. No doubt they would dig out such natural rockholes if they became filled with silt. As the result of their work and the scratching of animals searching for the last drop of water, such holes would become deeper over thousands of years.



AROUND THE STATES

SOUTH AUSTRALIA

The annual report of the Nature Conservation Society of South Australia had the following comments on the State scene,

"It has been a year in which the Society has not become involved in major conflicts but nevertheless one which saw few advances in attitudes towards nature conservation. We continue to be depressed by actions such as the National Park Golf Course clearing, the mining activities near valued natural landscapes, the inability of the Planning and Development Act to provide orderly and balanced land use, the growth of stereotyped urban fringe housing, proposed new freeways through high rainfall natural areas of the Mount Lofty Ranges, the continued non-appearance of management plans for National Parks and the failure of the Beverage Container Bill."

The subject of containers in general and packaging in particular was discussed in the Newsletter. It was pointed out that firstly it is a major issue of wise resource use, secondly a question of solid waste disposal and thirdly a problem of litter. It was also pointed out that recycling is not a "universal panacea for all ecological ills, whereas industrial recycling is itself an industrial process which is energy and non-renewable resource consuming." The Newsletter published the findings of a survey by F.O.E. (Adelaide) and these are most important.

"Replacement of all food and drink cans in Australia by returnable glass jars and bottles would, with an average return of 15 trips per unit, reduce consumption of tin plate by over 200,000 tonnes, cut energy consumption by over 300,000 tonnes of coal equivalent, reduce the demand for raw materials in the glass container industry by over 50 per cent, eliminate over 500,000 tonnes of municipal garbage, and probably bring savings to consumers of up to $100,000,000 per year. A scheme, such as envisaged above, allows for a considerable amount of interstate cartage of empties, but demands a largely new technology in the form of glass food packaging and computerised glass container handling, washing, sorting and stacking both for shops and industry."

A final, unpleasant, story from South Australia published in June 17-22 issue of the *National Times* showed that coursing using live hares, is still legal in this State. This is a revolting story. Let us hope public indignation will make it illegal.

TASMANIA

The big news is that at last this State has formed an Environmental Council of Tasmania. The Tasmanian Conservation Trust organised the preliminary meetings in both Hobart and Launceston with 33 groups taking part. It was resolved "that a loosely structured council would be set up and that the Tasmanian Conservation Trust would convene meetings from time to time of interested conservation bodies throughout the State. The first of these was held on 23 September 1974 at the Northern Tasmanian Environment Centre in Launceston. Items for the meeting were the Tasmanian forest policy, as well as some organisation details."

This is marvellous news and the only area without a council is now the Northern Territory where there are problems of distance and lack of population.

The Woodchip Campaign, Box 141 Deloraine, Tas. 7304 has woodchip posters for sale at $5 per 100.

NEW SOUTH WALES

Sewage

Surfers around Sydney are forced to swim in diluted sewage. Not diluted enough, however, because along the beach fronts of Sydney, Newcastle and Wollongong Norfolk Island pines are dying because of the detergents in this sewage. A recent scientific committee report indicated that the detergent in the sea spray attacked the waxy surface coating which protects the pine needles from excessive salt. Perhaps in time a committee will work on the problem of what the same sewage is doing to the human swimmers on the beaches.

Pollution and the individual

Mr M. S. Weinberg, a lecturer in law at the University of N.S.W., speaking on the individual and pollution at a symposium, stated the laws should be altered so that private individuals could bring legal action, if the authorities refused to do so. At present this requires the consent of the State Minister which is a handicap, particularly if a Government Department is the offender.

Kooragang Island

This mudflat lying between the northern and southern arms of the Hunter River has for many years afforded food, shelter and a nesting place for about 10,000 waders. This island, the principal refuge for migratory waders on the N.S.W. coast, is now threatened with development. This is in spite of the fact that the director of the State Pollution Control Commission has recommended the preservation of the area for the birds. Business interests, a higher authority at least where the State Government is concerned, want it for an industrial site.

Field of Mars

This small bushland reserve, run by the Ryde-Hunters Hill Fauna and Flora Society, has happier conservation news. The State Government and the Ryde Council have given them every encouragement, including financial, to make their area an important educational reserve.

There are indications that the nearby Parramatta River may be cleared up in the years to come.

QUEENSLAND

Fraser Island

The battle to save this magnificent island from sandmining continues. Moonbi 20 is the newsletter of the Fraser Island Defence Organisation and can be obtained from Box 420 Maryborough, Qld. The last issue tells the story of the latest assault. For those who think it is an easy, pleasant task to convince people of the right kind of progress, this newsletter shows how bitter such a struggle can become and how the various news media can be used to spread a false picture. But it is also a heartwarming example of conservationists who do not give up the fight but give as good as they get. One quote "Now Maryborough in its blind agonising, grasping for new job opportunities, is clutching at the straw (or chaff) of sandmining to be the saviour of the town — although sandmining will employ only forty men in the town — already a net loss. Maryborough leaders say they want sandmining, — what they mean to say is they want jobs."

This is a very important point for conservationists. An unemployed man who wants to work is an affront to society, so any changes we suggest must include arguments why our way is the way forward to more jobs and a secure future. Tourism is an ever expanding industry and means more and more employment opportunities. Moonbi puts all these points very effectively.

Crocodiles

There are no crocodile tears being shed over the good news that at last both species of crocodile are now fully protected in this State, closing a loophole which has worried conservationists for some time. This protection will extend to other reptiles and the new wildlife laws are pleasing. Congratulations to all concerned; however laws are useless without teeth and the 'teeth' are represented by rangers. Basic to all fauna conservation is the protection of habitats so we need more national parks and nature reserves.

VICTORIA

Alps at the Crossroads

From the Victorian National Parks Association we had a letter from Dick Johnson telling of a new book with the above title. This book, written in co-operation with the Save Our Bushlands Action Committee and the Federation of Victorian Walking Clubs, should be published towards the end of this year. We have for years been pushing for a large alpine park in this area. If this could be accomplished we would have a total park area of international significance when we take into account Kosciusko National Park and hopefully an adjoining area in the A.C.T. Perhaps the other dream of a walking or riding trail from Cape York, through four States and ending in the Flinders Ranges would become a reality.

Whey

Little Muffit was obviously fond of curds and whey but in modern times, whey is a very unpleasant pollutant of our streams. Only 3.5 per cent of the solids in the whey are recovered in dried form for use in pet foods.

Protected at last — Photo Eric Worrell

All goannas, including this perentie, are now protected in Queensland — Photo Jeff Carter

Now the CSIRO Dairy Research Laboratory has found a solution which may turn this pollutant into an important source of protein. The moral is 'Where there's a will, there's a whey.'

Newport

The State Government intends to go ahead with the Newport power station. There are many objections to this proposal and it seems sensible there should be a Parliamentary enquiry into this matter.

Rumbug School

From the *The Star* of July 30, 1974 a story which says "Seven Hill, as the building is called, is not the first step in a subdivision project, it is the result of a dream by two men and local educational officials to create a holiday camp for school children to enjoy the Rumbug Hills."

This area is near Leongatha and is the kind of project developing in many parts of Australia to further environmental education by working in a rich environment.

WESTERN AUSTRALIA

Shelter belts

The Tree Society Review for August-September had some facts about trees from the United Nations Food and Agriculture Organisation. Tests showed that properly placed shelter belts increased production by twenty per cent despite some land being lost to the trees. Also the belt helps cut soil erosion. A wonderful project is the planting of a new Great Wall of China along the margin of the Gobi Desert. This time the wall is of trees in a belt about 1.5 kilometres wide and about fifteen hundred kilometres in length.

Filling in the river

Apparently Perth governments have still not learned sufficient lessons about real progress. After destroying much of the beauty of Perth by filling in the reflection pool on the foreshore, plans are being made to fill in the foreshores of the Canning River. Three associations are fighting the proposal — the Kings Park and Swan River Society, The Canning River Conservation Association, and the Southern Foreshores Protection Society. Addresses can be obtained from the Tree Society, 258 Mill Point Road, South Perth.

AUSTRALIAN GOVERNMENT

National Conferences

We have already discussed the importance of State groups such as the various conservation councils forming a Federal Secretariat so they could speak with a combined voice to an Australian Government. Also from time to time workshops should be held so societies can learn more about keeping quality in our lives. The Gould League of N.S.W. is planning a national conference, which may lead to a federation of State Gould Leagues and hopefully their establishment in those States which lack them. It is promising that the Minister for Urban and Regional Development, Mr T. Uren, wrote "I agree with you that the formation of an Australian Council of Nature would be a valuable step in achieving unified action in conservation matters generally and I wish you success in your campaign."

Good News

There is so much good news on the conservation front coming from Canberra, it is impossible to do justice to all of it. The Australian Government has signed the wetlands convention and a bilateral treaty with Japan on migratory birds.

The Minister for the Environment and Conservation has brought out papers on nuclear power hazards, supersonic transport, forestry and the public interest, Torres Strait Marine Park, and a copy of an article People versus the Environment by Dr Moss Cass, stressing the need for limiting world populations.

Koala

American tourist organisations point out once more that the koala is our main tourist asset. Although conservationists often treat it as a dirty word, our main weapon in the fight to conserve the natural environment is tourism. Strangely enough the same objectors never regard themselves as being tourists, when they are on a holiday looking at national parks, or camping, or even walking through a local bushland park.

Hindwood Memorial Fund

For the donors to the fund it is good news that three projects are now under way, a Hindwood Nature Trail in Royal National Park in N.S.W., a Hindwood Memorial Library at present housed in the Australian Museum and a contribution to the Long Neck Lagoon project which is planned as a field study and research centre.

The Liberal-Country Party

These two parties have now brought out their conservation and environment policy and this has many excellent features. We will, as always, find out more detailed information before the next election and present the policies of all parties on what we regard as the crucial issues of quality of life and survival.

Money for Conservation

Paul Hamlyn Pty. Ltd., when they launched Australia's Wildlife Heritage, promised that some of the profits would be given to conservation societies. They have kept this promise by paying $10,000 to various groups throughout Australia, mainly State Conservation Councils but also including $750 to our magazine. Congratulations to the company concerned. We hope other organisations will follow their example.

INTERNATIONAL

Operation seafarer

The Royal Society for Protection of Birds in their magazine give details of 'operation seafarer' which is a census of all the seabird colonies in Britain and Ireland. Perhaps we should have a similar scheme here, so that in later years we can monitor what is happening to these birds.

Trees

Audubon magazine had an interesting booklet which dealt with city forests. A poll showed that 95 per cent of city people wanted trees and green grass around them. In terms of money, trees contributed 7 per cent to the value of a property.

Underwater hunters

The World Wildlife Fund news sheet suggested that underwater hunting must be brought under control. They quote Dr. Hans Haas:

"For almost ten years I did not dive at all. Then I went back to the sea — to the Great Barrier Reef, to Tahiti, to Jamaica. I was shocked by what I saw. All had changed. The fish were gone...Thousands, hundreds of thousands of underwater hunters had invaded the sea from all its coasts...In Jamaica I thought I had landed on the moon, in Tahiti as well..."

Come to Rome

The Council of Nature newsletter quotes the New Scientist of February 7, 1974:

"Rome is the noisiest city in the country and its carbon-monoxide level is often six times higher than the level at which it becomes a health hazard. Liver disorders ascribed to environmental pollution have increased 14-fold in the past 10 years."

In the old days the saying was "See Naples and die." Rome can be added to this list.

Photographers and birds

The German Society of Animal Photography has decided they will no longer photograph any bird species in danger of extinction, to avoid disturbance which could also be a hazard. They have urged all magazines, photographic competitions and the like to reject any such photographs.

Lead shot

From Oryx a note that in Canada a new lead-iron shotgun pellet has been developed. At present three million waterfowl die each year in North America from eating lead shot, lying around at their feeding areas.

The value of trees — Photo D. Baglin

Lake Makuru

This lake lies in the first national park created especially for its birdlife in Africa. It is famous for its flamingoes which can total over a million birds. There are other waterbirds such as pelicans, herons and storks making the lake an outstanding spectacle for visitors. Unfortunately pollution from town sewage, fertiliser, DDT and the like is producing a situation where some experts think that between 1985 and 1990 the basic food of the lake, algae, will become lethal.

Tiger paper

The FAO Regional Office for Asia and the far East sent us an issue under this title. The magazine is to provide information on the management of wildlife and park resources of Asia and the far East, so it should prove interesting to conservation groups. The Editor is Dr. Peter Enderlein and the address Maliwan Mansion, Phra Atit Torad Road, Bangkok 2. Thailand.

LETTERS

We have had a spate of letters on the woodchip and pine forests special issue dealing with the future of our forests. It is impossible to publish all of these but it is important to give both sides of any question, with a bias towards conservation, when all the big publicity guns with ample funds have been filling the news media with their own views. Our editorial attitude is summed up in this issue by using the text of a letter sent to the Prime Minister from the Nature Conservation Council of N.S.W. Only those with something to hide will be against this proposal.

Wood chip and pine plantations

Dear Sir,

Your issue of June, 1974 casts a very critical and emotional look at the woodchip industry in Australia. This, of course, you are quite entitled to do, but we greatly regret that, in the process, you have frequently departed from the usual factual nature of your journal.

Woodchips are, after all, the raw material of paper. Recycling, in which Australia is already a world leader, can only provide so much of the paper that is used in so many ways, including for the printing of journals such as "Wildlife in Australia". For the rest, we have to rely essentially on cellulose from our forests: forests which can be and are managed for, among other things, the continued production of wood.

In relation to your comments about the Eden operation, I should like to make two points:—

1. Despite the use of quotation marks, most of the "quoted" comments given on pp.44 and 45 do not come from the Forestry Commission notes on the Eden Forest Industries (copy attached), and in some cases the inferred statements are quite the reverse of what is said in the Commission's notes. For example, the Commission's statement actually, and correctly, notes that the "operations are carried out in such a way as to cause as little soil disturbance as possible. Some soil disturbance inevitably occurs...." In your journal (comment 3, on p.44) this is transposed to the quote "There is absolutely no risk of soil erosion". Hardly honest reporting, but in keeping with the philosophy of those who only want to believe the worst about the management of our country's forests.

2. The cover photo shows a logging coupe in Naghi State Forest — and incidentally indicates the manner in which the logging sites are speedily revegetating. However the caption (inside cover) infers that the logging is within the Nadgee Nature Reserve (Fauna Reserves went out with the passing of the National Parks and Wildlife Act in 1967). The logging area shown is over two miles distant by direct line from the nearest part of the Nadgee Nature Reserve, and the closest any logging is to the Reserve would be about three quarters of a mile.

Clear-felling is in fact a desirable silvicultural practice for the regeneration of the productive capacity of some forest stands, and the species composition and forest condition at Eden lend themselves to this kind of treatment. However, foresters have at no time suggested that any forests should be "destroyed by clear-felling" — as the caption to your cover photo states. Destruction of a forest is of course never a forester's aim — to change a forest's condition to meet management objectives, yes — but destruction, no! Incidentally, some 20 per cent of the region's forests have been set aside as Nature Reserve or National Park and will never be logged.

Similar criticism could be made of much of the other material included in your June issue, though in some cases this would involve descending to the "we did" — "you didn't" kind of argument.

Instead, may I extend an invitation to your readers to see for themselves the forest operations in the Eden area? During school holiday periods the Forestry Commission staff conducts tours through the local forests, showing the full range of activities, and their effects both short-term and in the longer perspective. We don't even try to hide our past mistakes: being staffed by humans, albeit skilled and experienced ones, we do make some mistakes — and learn from them. These tours provide a far more realistic idea of what is involved in the project than does your June issue, or for that matter any amount of handout material from the Forestry Commission or anyone else.

A. R. Cocks
Secretary
Forestry Commission of N.S.W.

Dear Sir,

Your June issue contains a number of articles on wood using projects in N.S.W., Tasmania and Western Australia and extracts from a recent book entitled "The Fight for the Forests". The theme which emerges from this issue appears to be that the removal of the crop of trees from a forest results in permanent destruction of that forest. If this is your objective, it evidences either an incredible ignorance of the origin and development of the Australian forest environment or a deliberate attempt to mislead your readers.

Our wonderfully diverse eucalypt forests, with their equally diverse flora and fauna are a product of an environment which has featured extremes of drought, fire and flood far more severe than most of us have experienced. For example, the "destruction" of most of central Victoria's 100,000 ha of mountain ash forests during the past few days in January 1939 by a bushfire of incredible intensity left a landscape more akin to the moon than a wet sclerophyllous forest. Yet with no assistance from man apart from protection from further fire these forests are not only restored but are developing a magnificence that only this forest type can assume.

A further example of the mixed eucalypt Wombat forest near Daylesford was also "destroyed" during the gold mining era and yet with careful management has supported a substantial sawmilling industry for many years with the potential to do so for ever. Moreover, most of the Wombat forest is also a water catchment for several domestic water supply schemes and a popular recreation area for nearby population centres as well as Melbourne only 70 miles away. It is also a source of pulpwood for a hardboard manufacturing plant, and is therefore a true multiple use forest that the Routleys do not believe exist.

The reason why these and numerous other forests have recovered from their destruction is that they have been repeatedly "destroyed" by natural fires during their evolution long before even black man appeared in Australia and have developed special means of survival such as the epicormic shoot, the lignotuber and the encapsulated seed which requires heat and low humidity for release and a bare soil bed for seedling survival.

A eucalypt forest is not a static environment moving through successive stages of "destruction" regeneration, youth, maturity and decadence and eventually "destruction" again, although fires can interrupt the succession at any time. Scattered light fires at irregular intervals mainly affect the undergrowth and its inhabitants, providing a diversity of habitats which have produced our unique flora and fauna (See "Victoria's Resources" March 1969, "Forest Focus" April 1974, and "The Effects of Fire on Fauna — A Review" A.N.Z.A.A.S. Symposium 1973). Removal of the vegetation during timber harvesting has a number of similar effects as fire, such as the exposure of bare soil for successful seed germination and the risk of soil erosion.

In bringing these facts to your attention I am neither supporting nor condoning pulpwood projects or the replacement of

native forests with pine. I am, however, strongly urging that you should critically examine any of these or similar projects and base your conclusions on an objective, honest and scientific study. This is being done in Victoria by the Government through the Land Conservation Council with very satisfactory results for both present and future generations.

J. R. May

Conservation

Dear Sir,

I didn't feel the comments of your dissatisfied reader ("Wildlife" Vol. 11, No. 2, page 54) were quite fair.

It is true indeed that "to go to extremes in any direction is to risk losing your credibility".

However it is unjustifiable to declare that "Wildlife in Australia" is guilty of this when one of the magazine's purposes is to bring to the notice of readers the destructive practises inflicted upon our environments and all life inhabiting these environments, and of which we would otherwise be totally unaware.

Unfortunately many of us do not live with nature, and rely all the more on publications such as "Wildlife in Australia" to enlighten us, for it is hardly an area in which we can remain apathetic and unmindful.

If your reader is so amazed that it has taken researchers so long to arrive at truths *he* has known for years, then why on earth didn't he take it upon himself to inform the poor fellows and save them years of tedious work?

I was particularly moved on reading the articles on the wood-chip industry, and am grateful to your magazine for such a thorough coverage of this dangerous and incredibly short-sighted operation.

Dawn Faith
Campbelltown, N.S.W.

Owls

Dear Sir,

I am researching information on Australian owls, and more particularly, the powerful owl and the boobook owl. I would like information on any technical articles available, plus suitable journals and publications which might be of assistance.

The results of this survey will be presented to Newcastle University where I am doing a course in biogeography. Any help will be acknowledged in my report.

Peter M. Irwin
Belmont High School,
P.O. Box 108,
Belmont N.S.W. 2280

Garden Poison

Dear Sir,

I have recently discovered your magazine, Wildlife in Australia. While I think it an excellent magazine generally, there was an article in Vol. 10, No. 1 that caused me great concern. This was the article entitled Conservation in your Garden, pp. 58-59.

There were four poisons listed as relatively harmless that I believe should not be used in the garden or anywhere else for that matter. They are Malathion, Carbaryl, Zineb and 2,4,D.

Malathion is an organic phosphate. This is only safe whilst the recipient's liver is in first class order and is extremely dangerous if absorbed whilst certain other organic phosphates are in the body. This chemical has been tested on chickens and found to induce severe muscular weakness.

Carbaryl, because it breaks down easily in the environment is considered quite safe by many people. Yet, because of this, the spray has to be applied several times a year causing the death of thousands of bees.

Zineb was mentioned as a fungicide. Although I'm not too familiar with this substance, I *think* it is the same as that used by tomato growers in Northern Victoria. If it is the same, then the label on the container makes formidable reading and it has also caused illness.

2,4,D., possibly the most sinister of the four offending poisons I'm referring to.

I have seen the results of this spray for myself on clover and strawberries and possibly daisies.

We had some samples of the above sent to Sydney University and elsewhere for tests.

Abnormalities in the reproductory organs of all samples, with the *possible* exception of the daisies, were observed and proven.

I can quote several cases, known to myself, of orchardists and other people handling 2,4,D., having died of cancer. These were all young people and although it hasn't been proved that 2,4,D., was responsible, the implication is most certainly there.

Hope you will accept this in the spirit it is written, friendly constructive criticism.

D. Steptoe
Angaston, S.A.

Editorial note

An expert in this field made the following comments.

Malathion. All organic phosphates are toxic yet malathion is one of the safest and most rapidly degraded.

Carbaryl. This does kill bees but considering the alternatives, it is best to lose some bees than use more persistent alternatives. Should ideally be used when blossoms are closed and therefore no bees present.

Zineb. All fungicides are dangerous. Highly concentrated chemicals quite foreign to the environment are bound to be toxic.

2.4.D. This does cause peculiar upsets in plants and is probably carcinogenic.

When we reprint the material, we will make the changes suggested. However we did not recommend any of these pesticides and pointed out "If you must use a pesticide, remember it IS a poison," and also wrote "It is criminal to risk our own lives and those of our families by using pesticides in a home garden designed for pleasure."

Letter from America

Dear Sir,

In your March, 1974, publication you had a very fine editorial on what Conservation should mean to each of us. I have found each number to be of great interest, and I should have liked to keep them all for future reference, but instead I have passed them along to a family of children, to a school library, and even to a veterinary hospital, hoping that people will realize more and more that conservation is for all of us. Also I was wanting more Americans to learn about what Australia is doing, what the country and animals are like.

Elizabeth L. Renner
Glen Falls, U.S.A.

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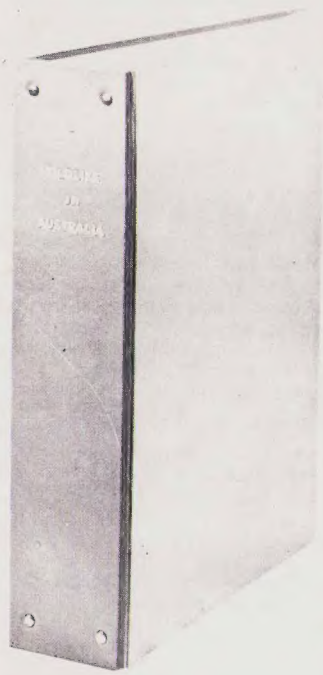

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